CANADIAN OCCIDENTAL PETROLEUM LTD

MINERALS DIVISION

GEOLOGY AND GEOCHEMISTRY OF THE SAL CLAIM GROUP

Claim Sheet No. 105F/4W
Lat. $61^{\circ}12'$N
Long.: $133^{\circ}53'$W

Claims:

SAL 1 - 25
Whitehorse Mining District
Yukon Territory

090 642

by:

E. J. Sacks, M.Sc.

Work Completed July 26 and 31, 1979

This report has been examined by the Geological Evaluation Unit and is recommended to the [illegible] to be considered as [illegible] the amount of $ 6,875

[illegible signature]

[illegible]

Considered [illegible] work under Section [illegible] Quartz Mining Act.

Commissioner of Yukon Territory

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PLANS cont'd

SUMMARY

The SAL Claims are located at 61°12'N, 133°53'W within N.T.S. map sheet 105F/4W, Whitehorse Mining District, Yukon Territory. The claims were staked on June 18, 1979, to cover a G.S.C. stream sediment uranium anomaly (227 ppm U) released in O.F.R. 564. The SAL Claims are underlain by slightly foliated, non-porphyritic, muscovite-biotite quartz-monzonite and granite cut by volumetrically minor, lamprophyre dykes. Strong 140T and 010T to 050T master jointing is pervasive and a 140T fault zone can be defined by shear, vertical fracture faces in the southeast corner of the claims. Fracturing is accompanied by hematization, sericitization and increased uranium, tungsten and radioactivity.

Strongly anomalous stream sediment, stream water, and soil uranium anomalies occur on strike with the fault zone. Lesser Zn and Ag responses also occur.

Potential U-W mineralization would likely involve deuteric/hydrothermal, structurally controlled, intergranitic veins in a differentiated, two-mica granite. If one were to extend the fault from its observed position, under overburden, to the head of the anomalous stream, a 2500 ft. x 300 ft. zone would result.

I. INTRODUCTION

The SAL 1-25 Claims were staked on June 18, 1979, to cover a G.S.C. stream sediment uranium anomaly released as part of O.F.R. 564 on June 15, 1979. On July 26, 1979, CanadianOxy conducted follow-up geological, prospecting and geochemical surveys over the SAL Claim Group. This report presents the results of those surveys.

II. LOCATION AND ACCESS

The SAL 1-25 Claims are situated at 133°53'W, 61°12'N within N.T.S. map sheet 105F/4W, Whitehorse Mining District, Yukon Territory. The claims cover an area of $2mi^2$ $(5.2km^2)$.

The claims lie 22 mi(37km) west of the north end of Quiet Lake at the headwaters of South Big Salmon River and Gray Creek (Figure 1,2). Access to the claims is via helicopter, approximately 15 to 20 minutes from Quiet Lake. Access to Quiet Lake is via the Canol Road (Yukon Highway No. 8) from the Alaska Highway.

III. PHYSIOGRAPHY AND VEGETATION

Relief over the SAL Claims is approximately 1000 ft. (300m) between elevations of 6200 ft. and 5300 ft. (1890m and 1620m) above sea level. Topography comprises relatively gentle, grass and talus covered slopes forming a west-facing cirque The originally anomalous creek drains the center of this cirque via a deeply incised, joint controlled drainage pattern. The entire claim group lies above the treeline; topography will present no problem to further systematic ground work.

IV. PREVIOUS WORK

To the author's knowledge the SAL Claims have not been previously prospected. The Quiet Lake (105F) map sheet has been geologically mapped by numerous G.S.C. geologists from 1956 to 1977. In 1978 the G.S.C. conducted a reconnaissance

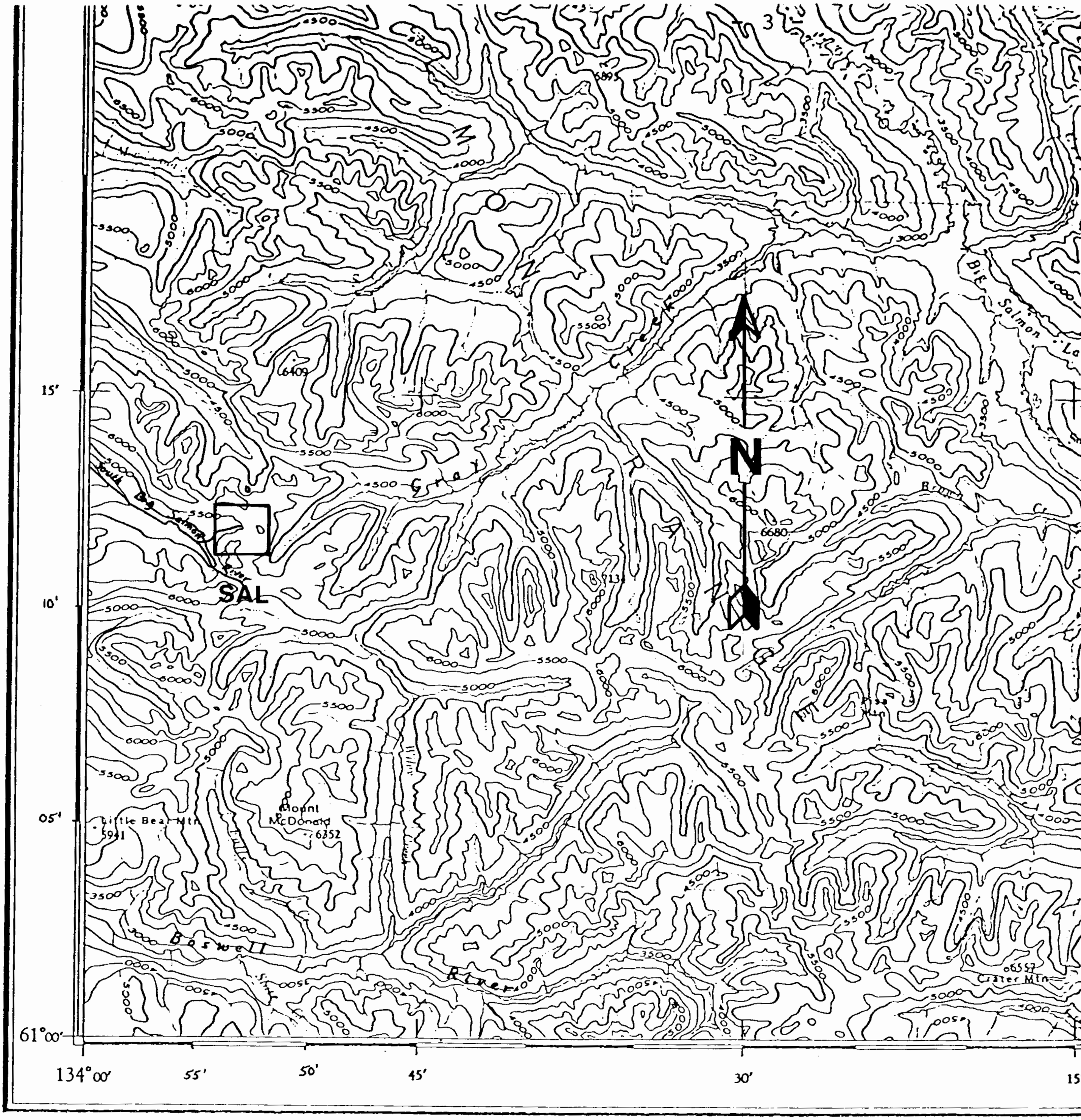

Figure 1

Location and Access of
SAL Claims

N.T.S. 105F/4

Scale: 1:250,000

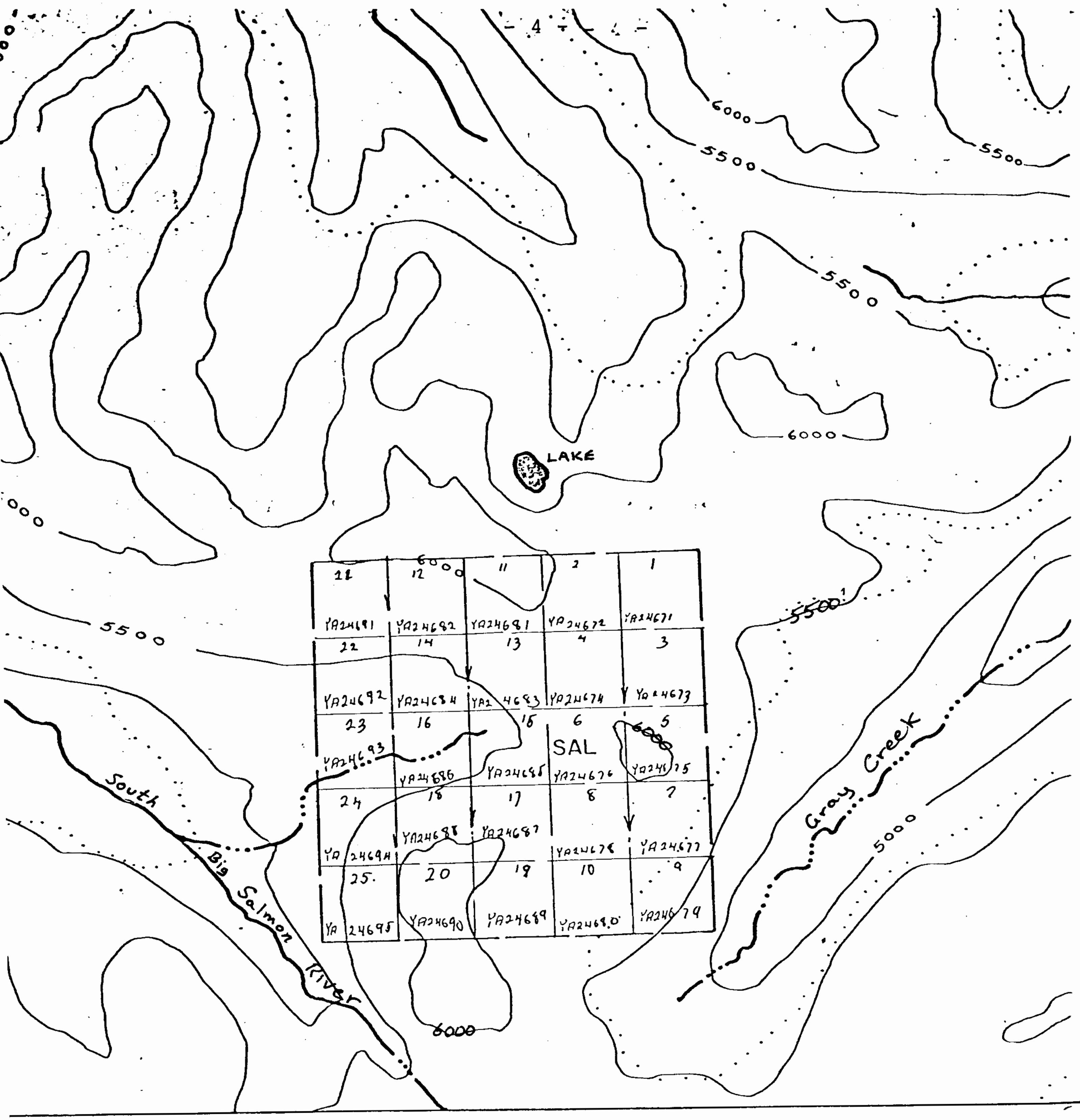

Figure 2

Staking Sketch Showing SAL 1-25
Mineral Claims

N.T.S. 105F/4

Scale: 1" = 2640'

stream sediment and water sampling survey over the entire Quiet Lake (105F) map sheet. Results were released on June 15, 1979, as O.F.R. 564 and the SAL Claims were staked on June 18, 1979 to cover a stream sediment uranium anomaly(227 ppm).

V. WORK COMPLETED - 1979

5.1 Staking

The SAL Claims were staked on June 18, 1979 by M.B.W. Surveys of Whitehorse, Yukon Territory for CanadianOxy Recording date is June 20, 1979. A total of 25 claims covering an area of $2mi^2$ ($5.6km^2$) were staked.

5.2 Geological Mapping

Sacks and Hooper conducted reconnaissance mapping and prospecting over the SAL Claims on July 26, 1979. Wallis, Sacks and Hooper revisited the claims on July 31, 1979. A total of 2.6 man-days of work were performed.

5.3 Geochemistry

A total of 12 stream sediment, 12 water and 27 soil samples were colled over the SAL Claims by Jermakowicz Pelletier and Zayachivsky on July 26, 1979. A total of 7 rock samples were collected during the mapping survey. All samples were sent to Chemex Labs Ltd., Vancouver, British Columbia, for geochemical analysis. Four sediment samples were further assayed for U and all sediment and soil samples were further analysed for W. Analytical results are presented in Appendix I. A total of 3 man-days of work was performed.

5.4 Summary of Work Completed

Type of Work	Man-Days	No. Samples	No. Analyses Cu	Mo	Pb	Zn	Ag	U	Th	Sn	W	As	F	Total
Geological Mapping	2.6													
Geochemistry	3.0													
i) Sediment		12	12	12	12	12	12	12	12	-	12	-	-	96
ii) Water		12	-	-	-	-	12	-	-	-	-	12	12	36
iii) Rock		7	7	7	7	7	7	7	7	7	7	-	-	63
iv) Soil		27	27	27	27	27	27	27	27	-	27	-	-	226
Helicopter (Bell 206-B)	(3.5 hrs.)													
TOTAL	5.6m/d	58												411

5.5 Names and Addresses of Personnel

Dr. R. H. Wallis — Chief Geologist
Canadian Occidental Petroleum Ltd.
Minerals Division
311-215 Carlingview Drive
Rexdale, Ontario
M9W 5X8

E. J. Sacks, M.Sc. — Project Geologist
(Same address as above)

J. Hooper — Senior Assistant
(Same address as above)

E. Jermakowicz — Junior Assistant
(Same address as above)

C. Pelletier — Junior Assistant
(Same address as above)

B. Zayachivsky — Junior Assistant
(Same address as above)

Dr. C. F. Gleeson — Consulting Geochemist
C. F. Gleeson and Associates
Ottawa, Ontario

VI. GEOLOGY

6.1 General Geology

Mapping and compilation by Tempelman-Kluit (1977) of the G.S.C. show the SAL Claims to be underlain by mid-Cretaceous biotite quartz-monzonite of the Quiet Lake Batholith. (Unit Kqm of Tempelman-Kluit, 1977). This unit is described as "moderately resistant, light grey weathering, biotite-quartz-monzonite; medium to coarse-grained equigranular; generally lacks fabric...". Mapping by CanadianOxy personnel shows the SAL Claims to be anomalous in that they are underlain by muscovite-biotite quartz-monzonite and granite which shows preferred orientation of micas.

6.2 Table of Formations (PLAN 1)

Unit	Description
L	Lamprophyre, diabase; dykes
mbQM	Muscovite-biotite quartz-monzonite

6.3 Description of Rock Units (PLAN 1)

All rock samples were stained by sodium cobaltinitrate after immersion in concentrated HF. This was done in order to distinguish plagioclase from potassium feldspar. The Colorado School of Mines, Classification of Rocks system was used to name the rock-type (Travis, 1955). Descriptions of individual samples are listed in Appendix II along with their trace element contents.

Unit mbQM - Muscovite-biotite quartz-monzonite.

This unit underlies the entire SAL Claim Group. It is comprised of medium-grained, non-porphyritic hypidiomorphic granular material which consists of plagioclase (25 to 35%), muscovite (1 to 5-10%), biotite (1 to 5%) and trace limonite and hematite occurring locally. This unit generally shows faint alignment of micas especially in the vicinity of strong fracturing. Plagioclase is often, but not always, sericitized while K-feldspar remains fresh. Hematite and limonite occur locally as staining along grain surfaces, especially on fracture surfaces (ES-SAL-1). The unit is characterized by a scintillometer response of 170 to 250 cps with up to 600 cps occurring in fractured areas (BGS-ISL).

Unit L - Lamprophyre, diabase dykes

Two 020T trending, 1 ft. to 3 ft. (0.3 to 1 m) wide dykes were seen along the northern claim boundary. The rock comprises a very fine-grained, chloritic mafic groundmass containing rounded mafic phenocrysts up to 2mm in size (pyroxene or olivine?) ES-SAL-3. Dyke borders are strongly hematized and the degree of hematization decreases into the core. Scintillometer response is 200 cps. the boundaries are razor sharp.

6.4 Structure (PLAN 1)

Strong jointing is pervasive over the claims. Joints resolve into master sets at 140T to 160T/90^{O} and 010T to 030 T/90^{O} and a subsidiary set at 070T to 080T/60^{O}S to 90^{O}. A 140T fault zone has been interpreted in the southeast corner of the claims and is marked by a series of shear, 20 ft. to 30 ft. high walls separated by flat, sheet jointed floors. 010T to 030T fractures cut the walls.

Faint alignment of micas, especially biotite is pervasive but is most noticeable in the southeast corner of the claims. Attitude is unknown.

The central stream occupies a deeply incised, outcrop walled, narrow gorge and is probably fault-joint controlled.

6.5 Metamorphism

The dominant metamorphic effect is cataclasis resulting in the strong jointing. Faint mica alignment could be a metamorphic and/or cooling effect.

6.6 Alteration (PLAN 1)

Many fractures show hematization up to 2 to 3 inches into the fracture wall (ES-SAL-1). Hematite both coats grain boundaries, particularly plagioclase and, immediately along the fracture surface, forms earthy pods replacing sericitized plagioclase. Plagioclase is also sericitized pparticularly along fracture surfaces but also locally in competent rock.

An increase in coarse muscovite content, as well as hematite and sericite, was noted along the shear-wall fractures in the southeast corner of the claims. These fractures contain anomalous uranium and tungsten and also show increased radioactivity (see 7.1 Rock Geochemistry).

6.7 Economic Geology

Potential uranium mineralization on the SAL Claims would likely be of intergranitic, hydrothermal vein type within a differentiated, two-mica, two-feldspar granite. The presence of abundant hematite alteration (plus sericitization and coarse muscovite) along fracture surfaces plus evidence of strong structural controls are favourable to this type of mineralization.

VII GEOCHEMISTRY

Mean, possibly anomalous and probably anomalous levels for each element in stream sediment, stream water and heavy mineral samples were determined at the 50th, 84th and 97th percentile levels of cumulative frequency distribution constructed from the combined Project WATSU regional follow-up data. In the case of soil samples, the combined data from all claim groups examined during Project WATSU were used. In the case of rock samples, data pertaining to trace element contents for various rock-types published by Levinson (1974 - Table 2-1) was used. Analytical results are listed in Appendix I. Sampling and laboratory procedures are listed in Appendjx III.

7.1 Rock Geochemistry (PLANS 1, 2, 3)

A total of 7 rock samples were collected and analysed for Cu, Mo, Pb, Zn, Ag, U, Th, Sn and W.

1. 4.5 ppm U and 10 ppm Th (U/Th = 0.45) occurs in a sample of hematized muscovite-biotite quartz-monzonite from a fracture surface along the northern claim boundary (ES-SAL-1).

2. 15.5 ppm U, 4 ppm Th and 20 ppm W occur in a sample of hematized and muscovite-rich, muscovite-biotite quartz-monzonite from a fracture surface in the 140T fracture-fault zone in the southeast corner of the claims (ES-SAL-5a). U/Th ratio is 3.9 indicating U enrichment. Radioactivity of up to 600 cps in the fracture is the highest on the claims.

TABLE 1

Mean, Possibly Anomalous and Probably Anomalous Levels - Soils, Sediments, Waters, Heavies.

Note: levels chosen from cumulative frequency curves at 50th, 84th and 97th percentiles, respectively.

A. Heavy Minerals

	ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm Mo	ppb Au	ppm Sn	ppm W	ppm U	ppm Th
Mean	24	17	75	.05	1.5	<10	2.3	15	3.8	44
Poss. Anom.	63	89	200	.38	3.5	19	38	60	26	330
Prob. Anom.	165	280	440	.95	8.5	3150	300	160	120	1200

B. Stream Sediments

	ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm Mo	ppm Sn	ppm W	ppm U	ppm Th
Mean	11	5	58	<.1	<1	<1	<1	2.5	13
Poss. Anom.	28	21	115	<.1	3	2	5	17	29
Prob. Anom.	54	59	320	1	11	5	16	38	50

C. Soils

	ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm Mo	ppm Sn	ppm W	ppm U	ppm Th
Mean	8	8	48	<.1	<1	<1	<1	2	14
Poss. Anom.	22	32	115	.1	2.5	1	7.5	7	36
Prob. Anom.	120	150	270	.8	5	2	40	30	75

D. Stream Waters

	ppb U	ppb F	m.mhos/cm S.C.
Mean	.25	19	18
Poss. Anom.	.85	100	46
Prob. Anom.	2.5	210	100

An adjacent, unaltered sample of muscovite-biotite quartz-monzonite contains only 3 ppm U but 10 ppm W which is anomalous (ES-SAL-5b).

3. The mbQM unit generally contains from 1 to 3 ppm U and 5 to 15 ppm Th with U/Th ratios of 0.2 to 0.5.

In summary, it appears that both increased radioactivity and uranium enrichment accompanies hematite alteration along fracture planes. This suggests the development of a deuteric/ hydrothermal event within the differentiated, two-mica granite.

7.2 Stream Sediment Geochemistry (PLANS 4, 5, 6)

A total of 12 stream sediment (and water) samples were collected at 500 ft. intervals from the originally anomalous (G.S.C.) stream and from small tributaries feeding it from the sides of the cirque. All samples were analysed for Cu, Mo, Pb, Zn, Ag, U and Th. Four samples with greater than 400 ppm U were subsequently assayed. All samples were subsequently analysed for W but the highest values are only 2 ppm despite the anomalous W contents in the fracture material.

1. 72 ppm to 0.105% U_3O_8, 66 to 205 ppm Zn and 0.2 to 1 ppm Ag occur. All samples are extremely anomalous in U with highest values occurring on strike with the 140T fault zone. Lesser, but still very strong, anomalous U contents occur in the streams draining the north side of the cirque. In all cases U/Th ratios are high (4.8 to >50) indicating uranium enrichment while thorium values remain low (7 to 15 ppm Th).

2. CanadianOxy sampling replicates the original G.S.C. sample (277 ppm U) taken approximately 3000 ft. downstream from the SAL Claims (see PLAN 10).

7.3 Stream Water Geochemistry (PLANS 4, 7)

Stream water samples were collected at each sediment site and analysed for pH and specific conductivity (S.C.) in the field and for U, F and As in the laboratory.

1. 1.8 to 9.6 ppb U occur in waters from across the claim group. As with U in sediments, highest values occur on strike with the 140T fault zone and lesser values occur in waters draining the north side of the cirque.

2. pH ranges from 7.7 to 8.2, which is high for granites, indicating the presence of alteration superimposed upon the quartz-monzonite. pH at the G.S.C. site downstream was 6.4. The reason for the poor replication is not known. S.C. is very low over the claims (15-20 m.mohs/cm).

7.4 Soil Geochemistry (PLANS 4, 8, 9)

Soil samples were collected from talus fines and frost boils at 1000 ft. (300 m) intervals along two parallel contour traverses around the inside of the cirque. All samples were analysed for Cu, Mo, Pb, Zn, Ag, U and Th and have subsequently been analysed for W.

1. 8 to 270 ppm U, 10 to 12 ppm Th occur over a 6000 ft. traverse length immediately paralleling the southern bank of the anomalous stream and on strike with the 140T fault zone, and thus is the probable source for the highly anomalous U in stream sediments at this location. 5.5 and 13 ppm U, 16 and 20 ppm Th occur in two samples from the southwestern corner of the claims.

3. 7 ppm U and 11 ppm Th occur in one sample from the vicinity of the fault zone. Overburden in this area is sparse.

4. 41 ppm U and 42 ppm Th occur in one sample from the north side of the cirque. Unlike soil samples from the south side of the cirque, this sample contains both elevated U content and elevated Th content suggesting a somewhat different type of anomaly. In general, Th values in soils on the north side of the cirque are higher than those on the south side.

VIII CONCLUSIONS

1. The SAL Claims are underlain by a differentiated muscovite-biotite quartz-monzonite and granites cut by dykes of lamprophyre in the northern part of the claims. 140T and 050T master joint sets occur and a 140T fault zone marked by shear, vertical rock faces can be defined in the south-eastern corner of the claims.

2. Fracturing is accompanied by and/or succeeded by deuteric alteration of the quartz-monzonite resulting in hematization, sericitization of plagioclase and increased coarse muscovite content. U and W enrichment and increased radioactivity accompany alteration.

3. Very strong stream sediment, stream water and soil U anomalies occur in the centre of the claims on strike with the 140T fault zone. If one were to assume the extension of the observed fault at least as far as the anomalous stream, a zone with strike length of 2500 ft. (760 m) and 200 to 300 ft. (60 m to 90m) would result. The possibility of downslope transport of uranium from a local occurrence at the observed fault outcrop to the stream, without intervening mineralization, should not be ignored.

4. Higher Th contents of soils and stream sediments on the north side of the cirque indicate either different secondary weathering-concentration regimes operating on either side of the stream and/or a different character of the intrusive rocks on either side of the stream.

5. Potential uranium mineralization on the SAL Claims would likely involve deuteric/hydrothermal, structurally controlled, intergranitic vein mineralization within differentiated, two-mica granite, accompanied by hematite, sericite and coarse muscovite alteration. Increased W contents within the fault zone indicate a U-W association.

IX RECOMMENDATIONS

1. Systematic geological mapping and prospecting with a scintillometer should be conducted at a scale of 1" = 400 ft. Establishment of a baseline is not vital to mapping as terrain allows the use of airphoto bases, however, it would facilitate systematic soil-radiometric surveys.

2. Soil and radiometric surveys and rock geochemistry surveys are required. 400 ft. x 200 ft. centres for soils and radiometrics and 400 ft. x 1000 ft. centres for rock geochemistry are recommended.

3. Since structural control appears to be important airphotos should be examined for evidence of lineaments, etc. VLF-EM survey along the soil-radiometric grid, could help to identify fracture extensions under overburden.

4. Systematic rock geochemistry across the fault zone is recommended. Particular attention should paid to the interrelations of various fracture surfaces and fresh rock.

5. A heavy mineral sample should be obtained from the anomalous stream and analysed for Cu, Pb, Zn, Ag, Mo, U, Th and W. All soils should be analysed fro Cu, Pb, Zn, Ag, U, Th and W.

Respectfully submitted,

E. J. Sacks

Eric James Sacks, M.Sc.

Toronto, Ontario

December, 1979

APPENDIX I

ANALYTICAL RESULTS

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 49362

INVOICE NO. 31943

RECEIVED Th-32440 Aug. 3/79

ANALYSED Aug. 16/79

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont.

ATTN: Watsu-Rock CC. E. Sacks

SAMPLE NO. :	PPM Cu	PPM Mo	PPM Pb	PPM Zn	PPM Ag	PPM U	PPM Th	PPM Sn	PPM W
ES-Bigox-2c	2	2	8	16	0.1	7.5	9	1	12
3	2	2	18	2	0.1	4.5	43	1	4
4	2	1	12	2	0.1	4.0	41	1	15
4a	4	6	6	10	0.2	5.5	17	1	1
5	2	3	2	8	0.2	3.0	6	1	1
ES-Bigox-6	4	1	6	24	0.2	7.5	43	2	1
JH-Wox-1	12	47	16	6	0.4	23.5	29	1	12
2	6	1	6	18	0.2	3.5	32	2	6
JH-Wox-3	2	1	4	10	0.1	22.0	44	1	10
ES-Wox-1	10	2	4	8	0.2	1.5	15	1	1
2a	12	1	2	26	0.4	1.5	15	1	1
2b	32	7	2	8	0.4	1.5	17	2	1
3	4	15	8	14	0.1	9.5	21	1	10
4	90	3	2	10	0.2	5.0	10	1	1
5	2	1	6	12	0.1	12.5	43	1	3
ES-Wox-6	40	1	1	72	0.1	< 0.5	1	1	1
ES-Sal-1	2	1	4	42	0.1	4.5	10	1	1
2	2	1	4	48	0.1	3.5	14	2	1
3	26	2	4	76	0.2	1.0	5	2	1
4	4	1	6	44	0.1	2.5	13	1	1
5a	8	1	10	24	0.1	15.5	4	1	20
5b	2	1	10	40	0.1	3.0	6	1	10
ES-Sal-6	8	1	6	56	0.1	3.5	20	1	2
JH-Pisa-1	8	1	4	44	0.1	1.5	16	1	2
2	4	1	4	104	0.1	1.0	7	1	1
3	8	1	2	58	0.1	2.5	15	1	1
4a	16	1	2	54	0.2	3.5	13	1	2
4b	2	1	4	4	0.1	2.0	3	1	8
5	6	1	22	16	0.1	23.0	2	1	1
6	6	1	74	290	0.1	7.5	34	1	5
JH-Pisa-7	2	1	6	50	0.1	6.5	22	1	3
ES-Mox-1	4	1	10	52	0.4	4.0	25	1	2
2	6	1	38	14	0.1	1.0	4	1	2
3	16	1	18	270	0.2	2.0	20	1	1
4	12	2	4	98	0.4	0.5	15	1	3
5	4	1	12	22	0.2	2.0	23	1	2
6	12	1	14	48	0.1	1.0	16	1	3
7a	4	1	12	42	0.1	0.5	21	1	1
7b	24	1	8	82	0.1	2.0	26	1	1
ES-Mox-7c	38	2	6	90	0.4	0.5	14	1	3

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Bichler

CERTIFICATE OF ANALYSIS

CHEMEX LABS LTD.
212 BROOKSBANK AVENUE
NORTH VANCOUVER B.C. CANADA

CLIENT : CAN-OXY

ATTN. : E. SACKS

SAMPLES RECEIVED : 07-SEP-79
ANALYSIS COMPLETED : 16-SEP-79
NOVATRACK CERT. NO.: B90074.
CHEMEX CERT. NO. : ASSAY 66171
INVOICE NO. : 32701

SAMPLE ID	U3O8 PERCENT
79 WT 207	0.063
79 WT 1025	0.109
79 WT 1045	0.045
79 WT 1068	0.105
79 WT 1261	0.082
79 WT 1262	0.087
79 WT 1263	0.086
79 WT 1279	0.047
HM 712	0.322
HM 713	0.522

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 49359
INVOICE NO. 31746
RECEIVED August 3, 1979
ANALYSED August 10, 1979

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division
311 - 215 Carlingview Dr.,
Rexdale, Ont.
M9W 5X8 n

ATTN:

WATSU - SAL - WATERS
c.c. Penticton

SAMPLE NO. :	PPB U	PPB F	PPB As
79 WT 1062	2.2	10	<2
1064	1.8	10	<2
1066	4.2	10	<2
1068	7.4	20	<2
1260	4.2	10	<2
1261	9.6	20	<2
1262	5.0	20	<2
1263	4.6	20	<2
1264	3.8	10	<2
1265	3.0	10	<2
1266	2.8	10	<2
79 WT 1267	3.0	10	<2

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: ....

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 49340
INVOICE NO. 31920
Th-32440
RECEIVED Aug. 3/79
ANALYSED Aug. 16/79

TO: Canadian Occidental Petroleum Ltd.,
Minerals Division,
Ste. 311 - 215 Carlingview Dr.,
Rexdale, Ont.
ATTN: WATSU-Sal-Stream Silts CC. E. Sacks

SAMPLE NO. :	PPM Cu	PPM Mo	PPM Pb	PPM Zn	PPM Ag	PPM U	PPM Th	PPM W
79 WT 1062	10	1	10	66	0.4	140	15	1
1064	8	1	10	82	0.4	72	15	1
1066	12	2	12	94	0.2	197	9	1
1068	18	1	14	148	0.4	> 400	8	1
1260	14	2	10	114	0.8	289	6	1
1261	16	1	18	134	0.4	> 400	7	1
1262	16	1	16	142	0.2	> 400	7	2
1263	18	1	18	156	0.6	> 400	7	2
1264	12	1	12	92	0.2	316	6	1
1265	14	1	10	116	0.6	273	9	1
1266	20	2	12	186	0.8	358	7	1
79 WT 1267	20	1	12	205	1.0	361	8	1

CTA
MEMBER
CANADIAN TESTING
ASSOCIATION

CERTIFIED BY: Hart Bichle

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 49332
INVOICE NO. 31900
RECEIVED Aug. 3/79
ANALYSED Aug. 15/79

TO: Canadian Occidental Petroleum Ltd.
Minerals Division
Ste. 311 - 215 Carlingview Dr.
Rexdale, Ont. M9W 5X8

ATTN:
PROJECT: Watsu-Sal-Soil CC: E. Sacks

SAMPLE NO. :	PPM Cu	PPM Mo	PPM Pb	PPM Zn	PPM Ag	PPM U	PPM Th	PPM W
79WT1059	6	2	4	38	0.1	6.5	21	1
1060	4	1	4	34	0.1	3.5	21	1
1061	6	2	2	18	0.1	3.0	5	1
1063	8	1	6	64	0.1	41	42	3
1065	10	1	10	42	0.1	3.0	7	1
1067	24	1	10	78	0.1	290	12	1
1069	12	1	8	64	0.1	8.5	11	3
1070	10	1	8	28	0.1	15.5	5	1
1071	26	1	8	44	0.1	8.0	10	1
1072	4	1	6	22	0.1	0.5	9	2
1073	4	1	4	28	0.1	4.5	16	2
1074	6	1	4	32	0.1	1.5	26	1
1200	6	1	10	46	0.1	2.0	17	1
1301	4	1	6	36	0.1	1.5	20	1
1302	6	1	8	54	0.1	3.0	12	1
1303	4	1	8	56	0.2	3.0	18	1
1304	6	1	6	44	0.1	5.0	20	1
1305	8	1	6	38	0.1	1.5	15	1
1306	8	1	4	22	0.1	2.5	8	5
1307	6	1	4	28	0.1	0.5	9	1
1308	6	1	4	50	0.1	1.0	13	1
1309	6	2	8	62	0.1	7.0	11	1
1310	10	1	2	12	0.1	0.5	7	1
1311	10	1	10	58	0.1	2.5	19	1
1312	6	1	8	36	0.1	2.0	17	1
1313	18	1	12	62	0.2	13.0	20	1
79WT1314	16	1	6	38	0.1	5.5	16	1

NOTE: NS Denotes No Sample.

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: ....

APPENDIX II

Rock Descriptions, Trace Element Contents

Sample No. (Scint. BGS-ISL)	Name	% Composition: Plag.	Ksp	Qtz	Bi	Ms	Other	Description	Analyses (ppm): Cu	Mo	Pb	Zn	Ag	U	Th	Sn	W	U/Th
ES-SAL-1 (175)	Ms-bi qtz.monz to granite	25	50	25	1-2	2-3	ht stain	med.gr.,massive, hypidiomorphic granular, ht stains fsp.surfaces, faint alignment of mica flakes.	2	1	4	42	0.1	4.5	10	1	1	.5
-2 (250)	Ms-bi qtz.monz.	30	50	20	1	2	trace Lt	M-d.gr.,hypidio-morphic granular, lt stain gives light orange appearnace;minor sericite altn. of plag.	2	1	4	48	0.1	3.5	14	2	1	.3
-3	lamprophyre dy/ce	-	-	-	-	-	-	v.fine gr.,chlori-tic mafic gdmass containing rounded phenocrysts of slightly darker mafic mineral (pyroxene?)-part of 1 ft. wide dyke;outer rim highly hematized with degree of hemati-zation decreasing towards the core.	26	2	4	76	0.2	1	5	2	1	.2
-4	Ms-bi	25	50	20	1-2	2-3	-	Med.gr.,hypidio-morphic,slight alignment of biotite	4	1	6	44	0.1	2.5	13	1	1	.2

APPENDIX II

Rock Descriptions, Trace Element Contents

Sample No. (Scint. BGS-ISL)	Name	% Composition						Description	Analyses (ppm)									U/Th
		Plag.	Ksp	Qtz	Bi	Ms	Other		Cu	Mo	Pb	Zn	Ag	U	Th	Sn	W	
ES-SAL-5a (+300)	Ms-bi qtz.monz. (fracture wall)	25	40	25	<1	5	trace Lt.	F.to med.gr., highly fractured; sericite altn.of plag.-from wall of fracture	8	1	10	24	0.1	15.5	4	1	20	3.9
-5b (+300)	Ms-bi qtz.monz. to granite	20	50	20	<1	5 10	-	F.to med.gr.,align. of ms - K-spar; slight breccia-tion,slight serici-tic altn.of plag.	2	1	10	40	0.1	3	6	1	10	.5
-6 (150)	Bi-ms qt.monz.	35	35	20	5	<1	-	Med.gr.,hypidio-morphic,slight alignment of micas, biotite dominates muscovite;unaltered	8	1	6	56	0.1	3.5	20	1	2	.2

Appendix III - Sampling and Laboratory Procedures

I. SAMPLING PROCEDURES

A) Heavy Minerals

1. A sample site is selcted which exhibits maximum sorting of stream bed material. Active (below water) or previously active (dry now but previously below water) sites may be chosen. Leading edges or sides of gravel bars with large boulders are most attractive. In practice, the ideal case is rare and one chooses the best possible site.

2. Gravel and cobble material is shoveled into a large (18" to 24") gold pan into which 1/4" holes have been drilled. The material is vigourously shaken in still water so that - 1/4 in. material passes the screen into a second, matching pan. Enough -1/4 in. material is collected to fill an 18" x 24" poly bag (usually one large pan or two smaller ones). The -1/4" material is returned to camp.

3. The - 1/4 in. material is panned to achieve a concentrate of heavy minerals and aggregates containing heavy minerals. Approximately 80% of the original material (20 - 25 lbs) is discarded while a 1 - 2 lb. concentrate is obtained. The concentrate is sealed in a plastic or cloth bag (cloth is preferred as it allows

the sample to dry, thus reducing shipping weight)and then sent to the laboratory for geochemical analysis.

B) Stream Sediment

1. A presently or previously active stream site is selected which exhibits minimum sorting ie. quiet water, and accumulation of fine sandy and silty material. If the stream is too active, material can be obtained from bank-moss which acts as a trap, or by digging out the lee of large boulders.

2. Three to four handfuls of material is collected and after squeezing to remove excess water is placed in high wet-strength, heavy duty, prenumbered kraft envelopes. The samples are dried in the field and then sent to the laboratory for geochemical analysis.

C) Stream Water

1. A 4 oz. poly bottle is rinsed with the sample site water at least three times then filled fully and tightly capped. The sample is tested in the field for pH and specific conductivity, then sent to the laboratory for geochemical analysis.

2. Care should be taken to avoid contamination by always collecting waters up-stream from a heavy mineral or sediment sample site.

D) Soil

1. 'B' horizon or talus fine material is sampled.

2. Three to four handfuls of material are collected into heavy duty, high wet-strength kraft envelopes which are dried in the field and then sent to the laboratory for analysis.

E) Sample Site Information Card

1. At each soil or stream sample site, an 80 column field data card is completed. The sampler records such information as sample number, location and type, depth of stream, sample composition, vegetation, drainage, etc. Separate cards are used for stream and soil samples in order to record pertinent information.

II. Laboratory Procedures

A. Sample Preparation

i) Heavy Minerals

1. Samples dried and weighed.

2. Screen - 10 mesh material from sample and weigh; weigh and retain +10 mesh material left on screen.

3. Use -10 mesh fraction for heavy liquid separation.

4. Transfer -10 mesh (fine) fraction into a 1000 ml. separatory funnel containing 200 mls. of tetrabromoethane (S.G. 2.96).

5. Shake sample gently in heavy liquid. Particles of fines adhering to sides of the separatory funnel can be washed into the heavy liquid by slowly rotating the funnel at an oblique angle. The "heavies" (S.G. $>$2.96) will slowly settle to the bottom of the heavy liquid.

6. Drain the "heavies" into a small filter funnel. Drain excess heavy liquid and light materials into a separate filter funnel. Collect all heavy liquid into a waste receiving bottle.

7. Save light minerals (S.G. $<$2.96). Wash "heavies" fraction with methanol to remove residual tetrabromoethane. Use the same procedure on light minerals fraction. Dry both fractions and weigh. Retain the "lights" in a suitable sealed container. Save 0.5 gm of "heavies" in a plastic vial for visual examination.

8. Pulverize the remaining "heavies" in an agate mortar and pestle and homogenize before weighing for analyses.

B. Elemental Analyses

i) ppm Copper, Lead, Zinc, Silver, Molybdenum (Atomic Absorption)

1. A 1.0 gm portion of -80 mesh soil or stream sediment or -200 mesh rock flour or pulverized "heavies" is digested in concentrated, hot, perchloric - nitric acid ($HClO_4$-HNO_3) for 2 hours.

2. Digested sample is cooled and made up to 25 mls. with distilled water.

3. Solution is mixed and solids allowed to settle.

4. Cu, Pb, Zn Ag and Mo are determined by atomic absorption, using background correction for Pb and Ag analyses.

Element	Bkgd. Corr.	Flame Type	Wave Length hm	Detection Limit	Chemex Standard	± 1 Std. Deviation
Cu	No	A	324.7	1 ppm	71 ppm	± 3
Pb	Yes	A	217.0	1 ppm	59 ppm	± 1
Zn	No	A	213.8	1 ppm	52 ppm	± 3
Ag	Yes	A	328.1	0.2 ppm	8.5 ppm	± 0.5
Mo	No	N	313.3	1 ppm	25 ppm	± 1

A = Air acetylene flame.

N = Nitrous oxide - acetylene flame.

ii) ppm Tin (Sn) (Atomic Absorption)

1. A 1.0 gm sample of -80 mesh soil or stream sediment, -200 mesh rock flour or pulverized "heavies" is scintered with ammonium iodide.

2. The resulting tin-iodide is leached with a dilute HCl - ascorbic acid solution.

9. Analyse the "heavies" powder for appropriate elements. The number of elements analysed for is determined by the amount of "heavy" material obtained in separation.

ii) Stream Sediments

1. Samples are sorted and dried at 50°c for 12 to 16 hours.

2. Dried material is then screened to obtain the -80 mesh (177 micron) fraction. The rest of the material is discarded.

3. -80 mesh fraction material is weighed and analysed for appropriate elements.

iii) Soils

Same procedure as for stream sediments.

iv) Rocks

1. Entire sample is crushed.

2. If necessary (>250 gms.). The sample is split on a Jones splitter, the reject is retained for a short period.

3. The split fraction is pulverized in a ring grinder such that 90% passes a 200 mesh (74 micron) sieve.

4. The -200 mesh material is weighed and analysed for the appropriate elements.

v) Waters

See individual element descriptions for U and F.

3. The TOPO complex is then extracted into MIBIC (Methyl isobutyl ketone) and anaylsed via atomic absorption.

4. Detection limit: 1 ppm Sn

iii) ppm Tungsten (W) (Colourimetric)

1. 0.5 gm of -80 mesh soil or stream sediment, -200 mesh rock flour or pulverized "heavies" is fused with potassium bisulfate and leached with HCl.

2. The reduced form of W is complexed with toluene 3, 4 dithiol and extracted into an organic phase.

3. The resulting colour is visually compared to similarly prepared standards. (Colourimetric method)

4. Detection limit: 2 ppm W

iv) ppb Gold (Au) (Atomic Absorption)

1. A 5 gm sample of -200 mesh rock flour or pulverized "heavies" is ashed at 800^{o}c for 1 hour.

2. Ashed material is digested with aqua regia twice to dryness.

3. Digested material is taken up in 25% HCl.

4. Au is extracted as the bromide into MIBK and analysed via atomic absorption.

5. Detection limit: 10 ppb Au

v) ppm Thorium (Th) (Neutron Activation)

1. 1 gm of -80 mesh soil or stream sediment, -200 mesh rock flour or pulverized "heavies" is weighed into a polyethelene vial and heat sealed.

2. Samples, along with standards, are then irradiated

for sufficient periods to receive a neutron dose of 1-3 X 10^{10} to $10^{15}/cm^2$.

3. Following irradiation, samples are cooled for at least one week and thorium determined by the measurement of its characteristic gamma ray, using a semiconductor (Ge (Li)) detector.

4. Detection limit: 1 ppm Th

vi) Uranium (U) (Fluorimetry)

A) Uranium in soils, stream sediments, "heavies", rocks.

1. 1 gm of -80 mesh soil or stream sediment, -200 mesh rock flour or pulverized "heavies" is digested with hot, $HClO_4$-HNO_3 to strong fumes of $HClO_4$ for approximately 2 hours.

2. The digest is diluted to volume and mixed.

3. An aliquot is extracted into MIBK with the acid of an aluminum nitrate-tetrapropyl ammonium hydroxide salting solution. (TPAN)

4. Uranium in the MIBK is determined by evaporating a portion of the MIBK in a platinum dish and fusing with a mixture of Na_2CO_3-K_2CO_3-NaF.

5. The fluorescence of the fused flux is measured to determine the uranium content.

6. Detection limit: 0.5 ppm U

B) Uranium in Water

1. A portion of the sample is filtered to remove sediment (if necessary), is acidified and then evaporated to dryness.

2. Residue is leached with a small volume of HCO_3.

3. Uranium in the leachate is extracted into MIBK, with the aid of TPAN salting solution.

4. Uranium is determined as for solid materials, above by fluorimetry.

5. Detection limit: 0.2 ppb U

vii) Fluorine (F) (Specific Ion Electrode)

A) F in soils, stream sediments, rocks, "heavies".

1. 0.25 gm of -80 mesh soil or stream sediment, -200 mesh rock flour or pulverized "heavies" is fused with a 2:1 $NaCO_3$-KNO_3 mixture.

2. The melt is leached with water and citric acid, adjusted to pH 5.5 and the activity measured with a fluoride specific ion electrode.

3. Detection limit: 10 ppm F

B) F in Waters (Potentiometric)

1. An aliquot of the sample is filtered and treated with an equal volume of Total Ionic Strength Adjustment Buffer (TISAB) consisting of glacial acetic acid, sodium chloride and cyclohexanediamine tetraacetic acid.

2. The resulting solution is stirred for 3 minutes to allow the fluoride electrode to stabilize.

3. The F concentration is read from a specific ion meter which is calibrated frequently with freshly prepared standard fluoride solutions.

4. Detection limit: 0.02 ppb F

viii) ppb Arsenic (As) (Atomic Absorption)

a) As in waters

1. An aliquot of water is acidified with HCl and then reduced with potassium iodine to reduce As (V) to As (III).

2. A portion of this solution is further reduced with sodium borohydride to arsine, AsH_3.

3. The volatile arsine is swept into a heated cell in an atomic absorption spectrophotometer and decomposed to free arsenic to determine the arsenic concentration.

4. Detection limit: 2 ppb As

ix) pH

1. pH in waters was determined in the field, using a portable pH meter.

2. The meter was standardized by means of buffer solutions, every 10th sample to minimize meter drift.

x) Specific Conductivity (S.C.)

1. S.C. in waters was determined in the field, using a portable S.C. meter.

2. The electrode was washed in a standard water, after each determination, to minimize and standardize contamination.

APPENDIX IV

Comments of R.H. Wallis Examination of SAL Claims

SAL Claims (1-25) 105F July 31st, 1979

Commodity (U) RHW, EJS, JRH

Completely above treeline, relatively gentle slopes but plenty of rock exposed, 1000-1500 feet of relief. No need for picketed lines, can soil sample and scint on airphoto blow-ups (no 1:50,000 topo available, claim maps are 1:250,000 blow-ups and can be highly confusing). This is Tempelman-Kluit's (1977) Kgm = "moderately resistant, light grey weathering, biotite quartz-monzonite, medium to coarse-grained, equigranular, generally lacks fabric".

Thus, the obvious contrast at SAL with the above general description is the pervasive presence of muscovite all over the claim group.

Geology, apparently simple, medium-grained, non-megacrystic, muscovite-biotite quartz-monzonite (part of the Quiet Lake batholith). At least 3 sets of master joints plus sheeting joints. On joint faces biotite is altered to chlorite and limonite; plagioclase is altered to sericite and is selectively weathered out to leave a pitted surface. To some extent biotite is preferentially aligned, muscovite is dominant over biotite. Quartz veins are rare; as are quartz-pyrite-limonite veins. Major joints give 440-650 cps.

The G.S.C. anomalous creek is a cleancut stream, out of a single cirque, deeply incised in a joint controlled drainage pattern.

APPENDIX V

References

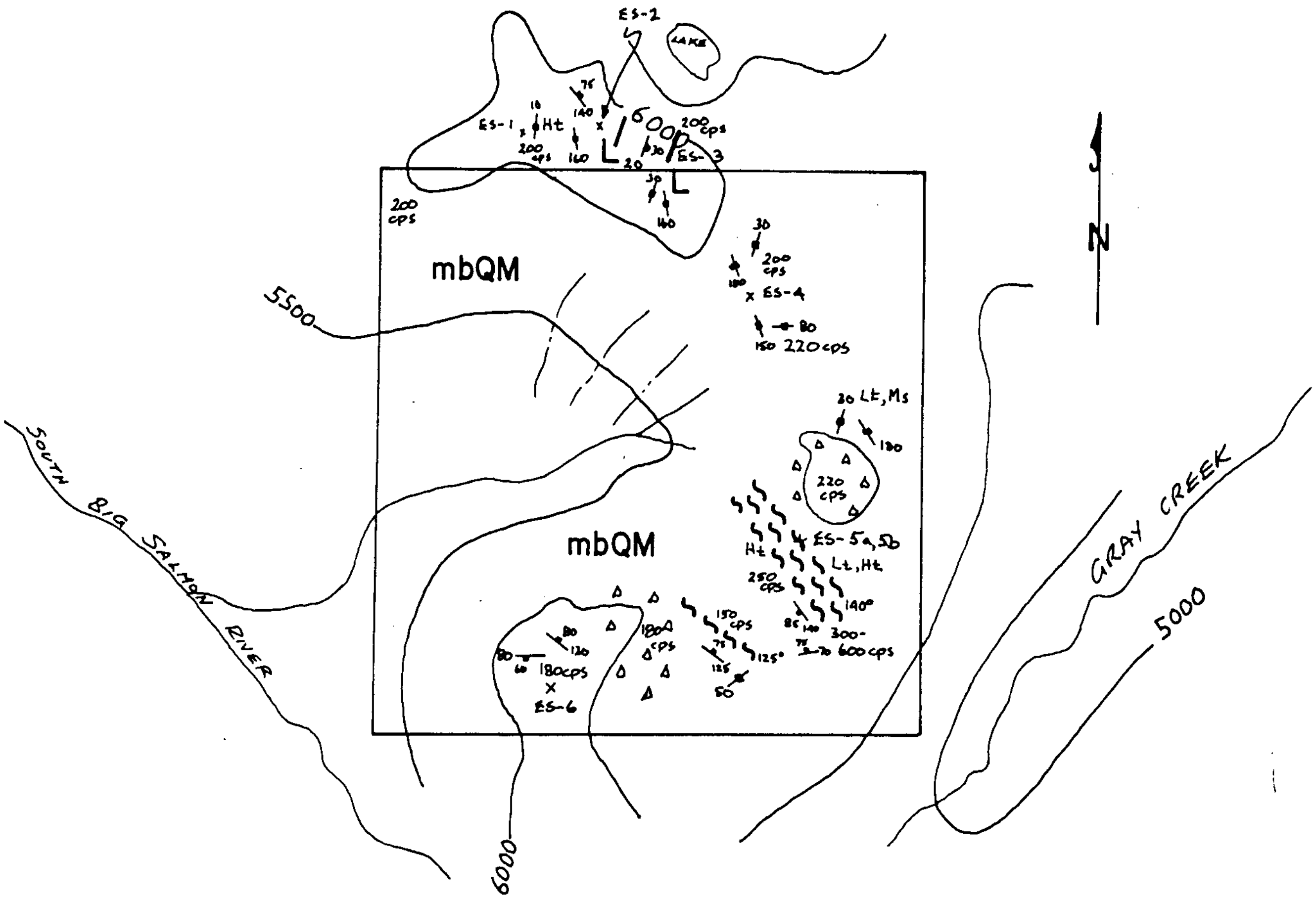
1. G.S.C.(1979): Stream Sediment Reconnaissance Sampling Survey, Quiet Lake (105F), Southern Yukon Territory; O.F.R. 564.

2. Levinson, A.(1974): Introduciton to Exploraiton Geochemistry; Applied Publishing, Calgary, Table 2-1.

3. Travis, R.B.(1955): Classification of Rocks; Quarterly of the Colorado School of Mines, V.50, No. 1., January, 1955.

4. Tempelman-Kluit, D.J.(1977): Geology of Quiet Lake (105F) and Finlayson Lake (105A) Map-Areas; G.S.C. O.F.R. (3 sheets)

5. Wheeler, J.O., Green, L.H. and Roddick, J. A.(1960):Geology-Quiet Lake, Yukon Territory; G.S.C. Map 7-1960, Preliminary Series, Sheet 105F.



Legend

L : Lamprophyre dyke

mbQM : Muscovite-biotite quartz monzonite

~ ~ ~ : Fault (assumed)

—•— , —▲— : Jointing (vertical, inclined)

Ht Hematite Lt Limonite
Ms Muscovite

x Rock Sample eg. ES-2

150cps Scintillometer (BGS-1SL) - counts per second

PLAN 1

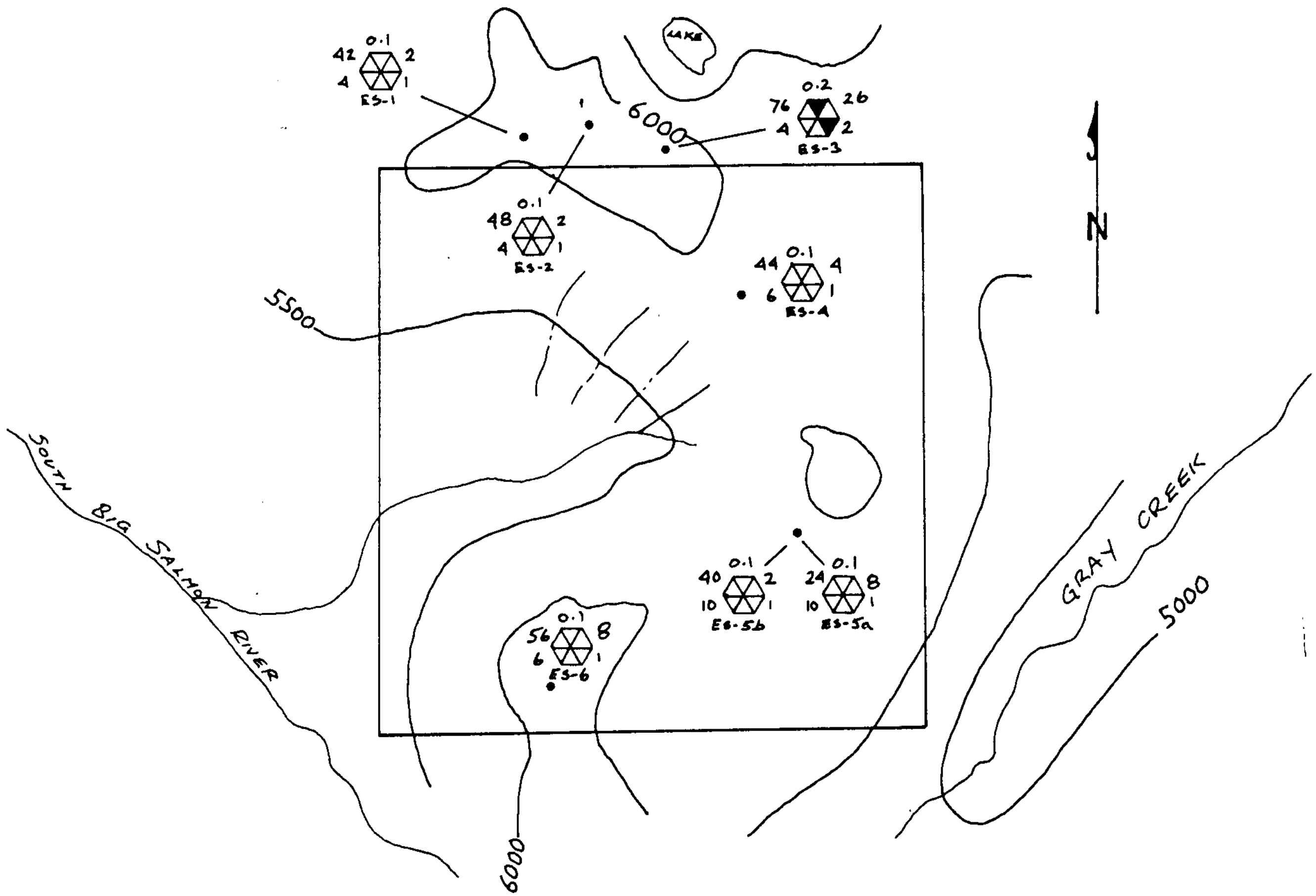
CANADIAN OCCIDENTAL PETROLEUM LIMITED
MINERALS DIVISION

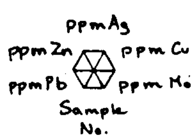
PROJECT WATSU
SAL 1-25 CLAIMS
YUKON TERRITORY

GEOLOGY

Scale 1" = 2,640' (1/2 mile)

September 1979





		Cu	Mo	Pb	Zn	Ag	
Poss. Anomalous		—	—	—	—	—	
Prob. Anomalous		30	2	20	60	0.1	

PLAN 2

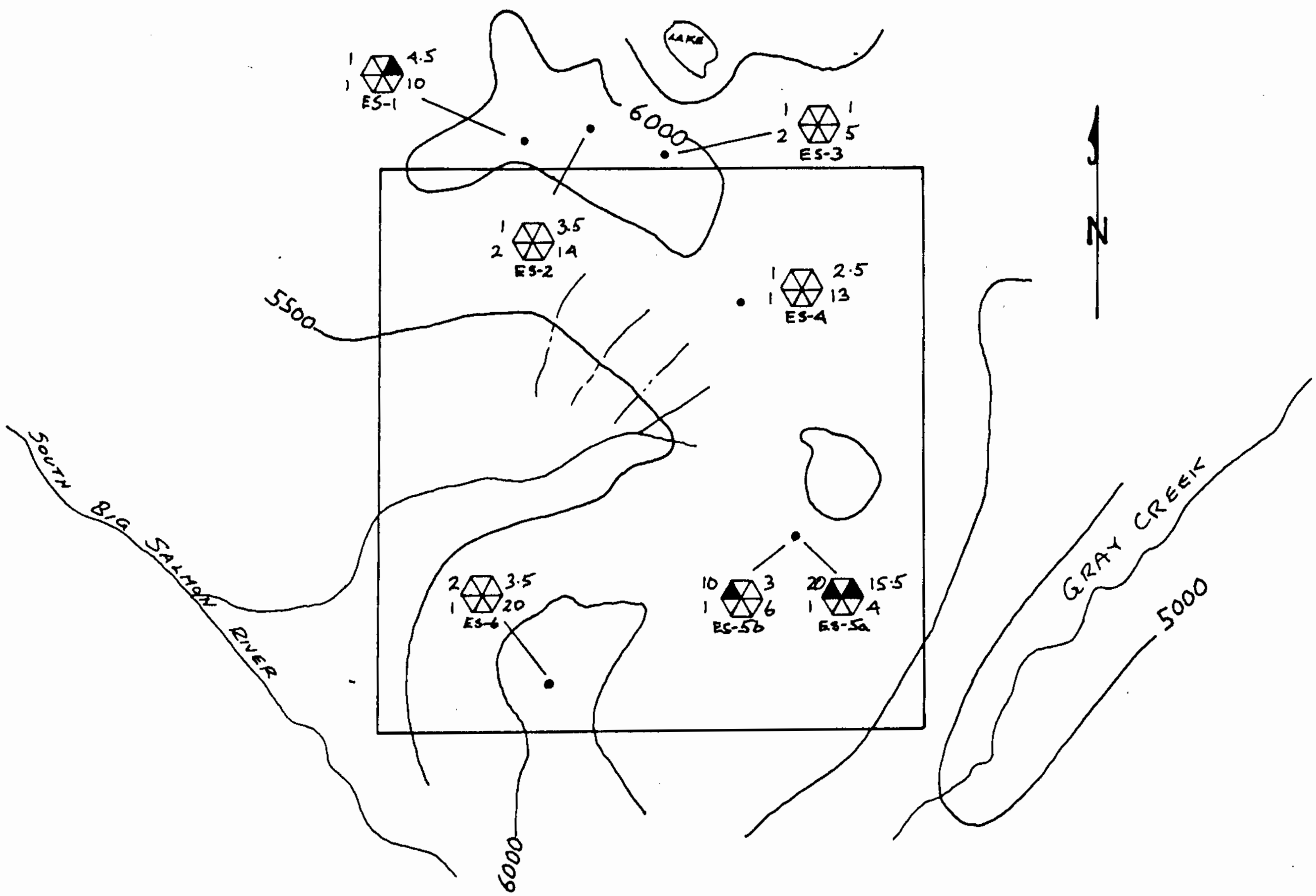
CANADIAN OCCIDENTAL PETROLEUM LIMITED
MINERALS DIVISION

PROJECT WATSU
SAL 1-25 CLAIMS
YUKON TERRITORY

ROCK GEOCHEMISTRY

Cu - Mo - Pb - Zn - Ag

Scale 1" = 2,640' (1/2 mile) September 1979



ppm W ppm U
ppm Sn ppm Th
Sample No.

	U	Th	Sn	W		
Poss. Anomalous	–					
Prob. Anomalous	4	20	3	3		

PLAN 3

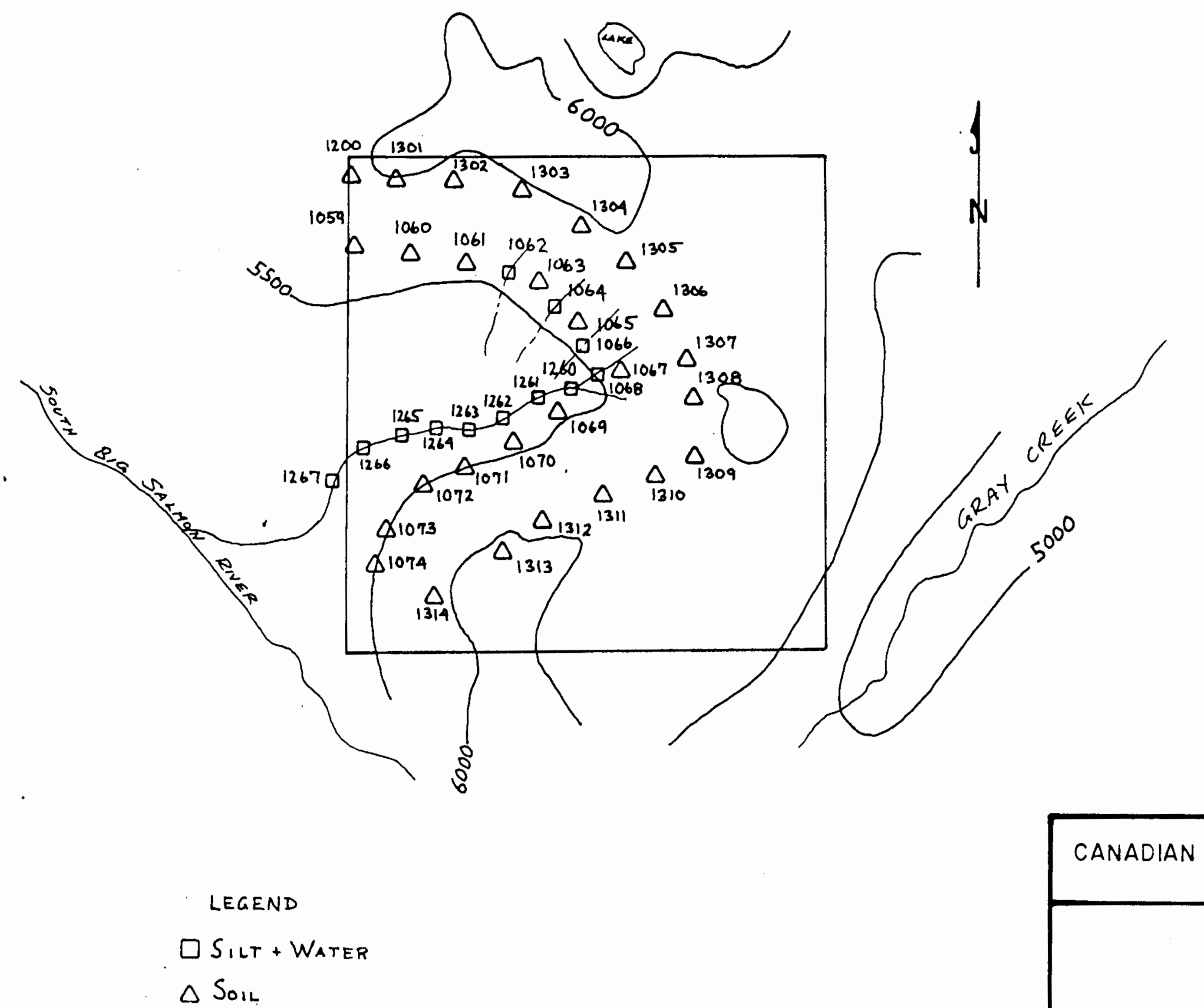
CANADIAN OCCIDENTAL PETROLEUM LIMITED
MINERALS DIVISION

PROJECT WATSU
SAL 1-25 CLAIMS
YUKON TERRITORY

ROCK GEOCHEMISTRY

U - Th - Sn - W

Scale : 1" = 2,640' (1/2 mile) September 1979



PLAN 4

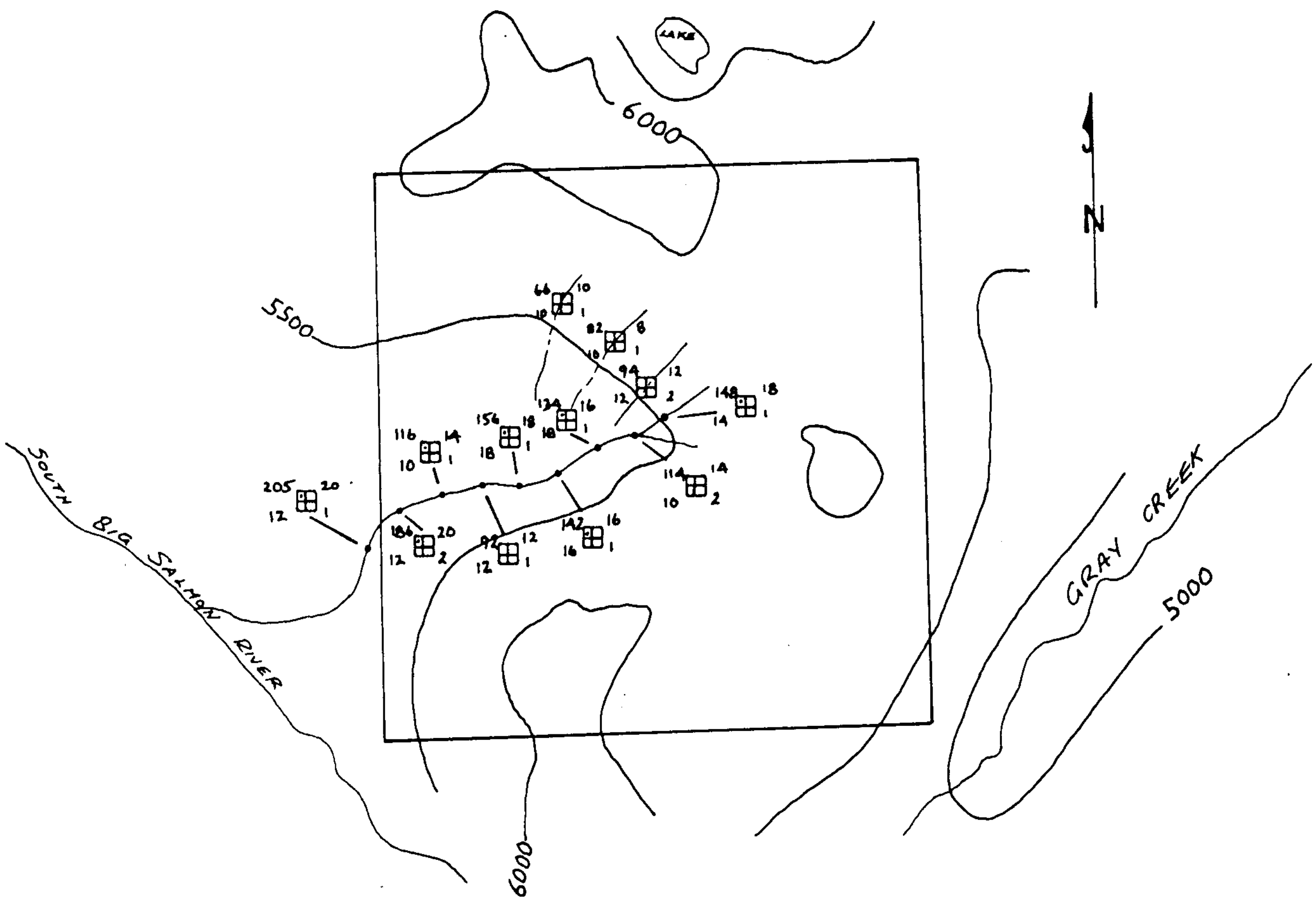
CANADIAN OCCIDENTAL PETROLEUM LIMITED
MINERALS DIVISION

PROJECT WATSU
SAL 1-25 CLAIMS
YUKON TERRITORY

SAMPLE LOCATIONS

Scale : 1" = 2,640' (1/2 mile)

September 1979



	Cu	Mo	Pb	Zn		
Poss. Anomalous	28	3	21	115		
Prob. Anomalous	54	11	59	320		

PLAN 5

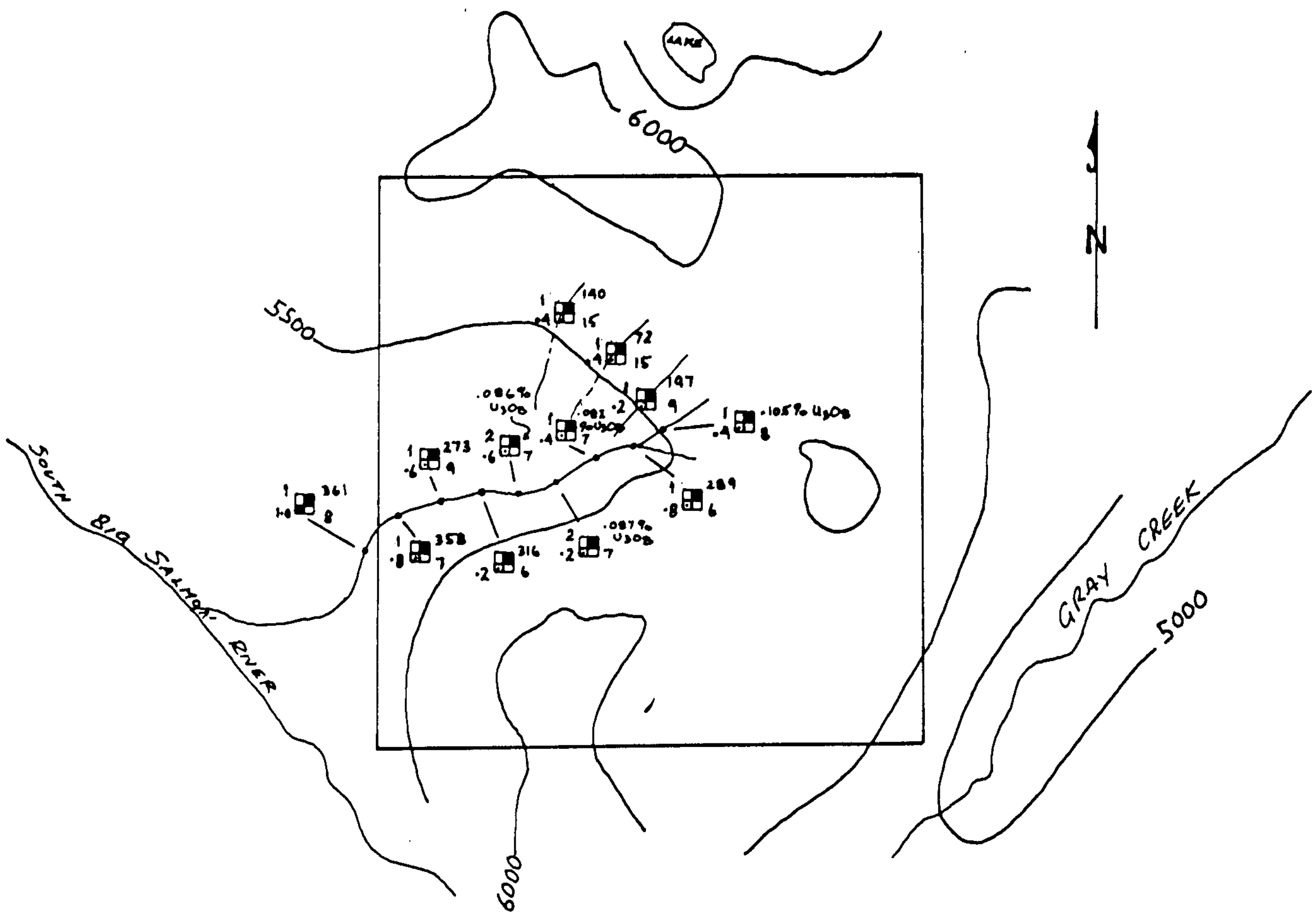
CANADIAN OCCIDENTAL PETROLEUM LIMITED
MINERALS DIVISION

PROJECT WATSU
SAL 1-25 CLAIMS
YUKON TERRITORY

STREAM SEDIMENT GEOCHEMISTRY
Cu - Mo - Pb - Zn

Scale 1" = 2,640' (1/2 mile)

September 1979



ppm W ⊞ ppm U
ppm Ag ppm Th

		U	Th	Ag	W		
Poss. Anomalous	•	17	29	<.1	5		
Prob. Anomalous	◣	38	50	1	16		

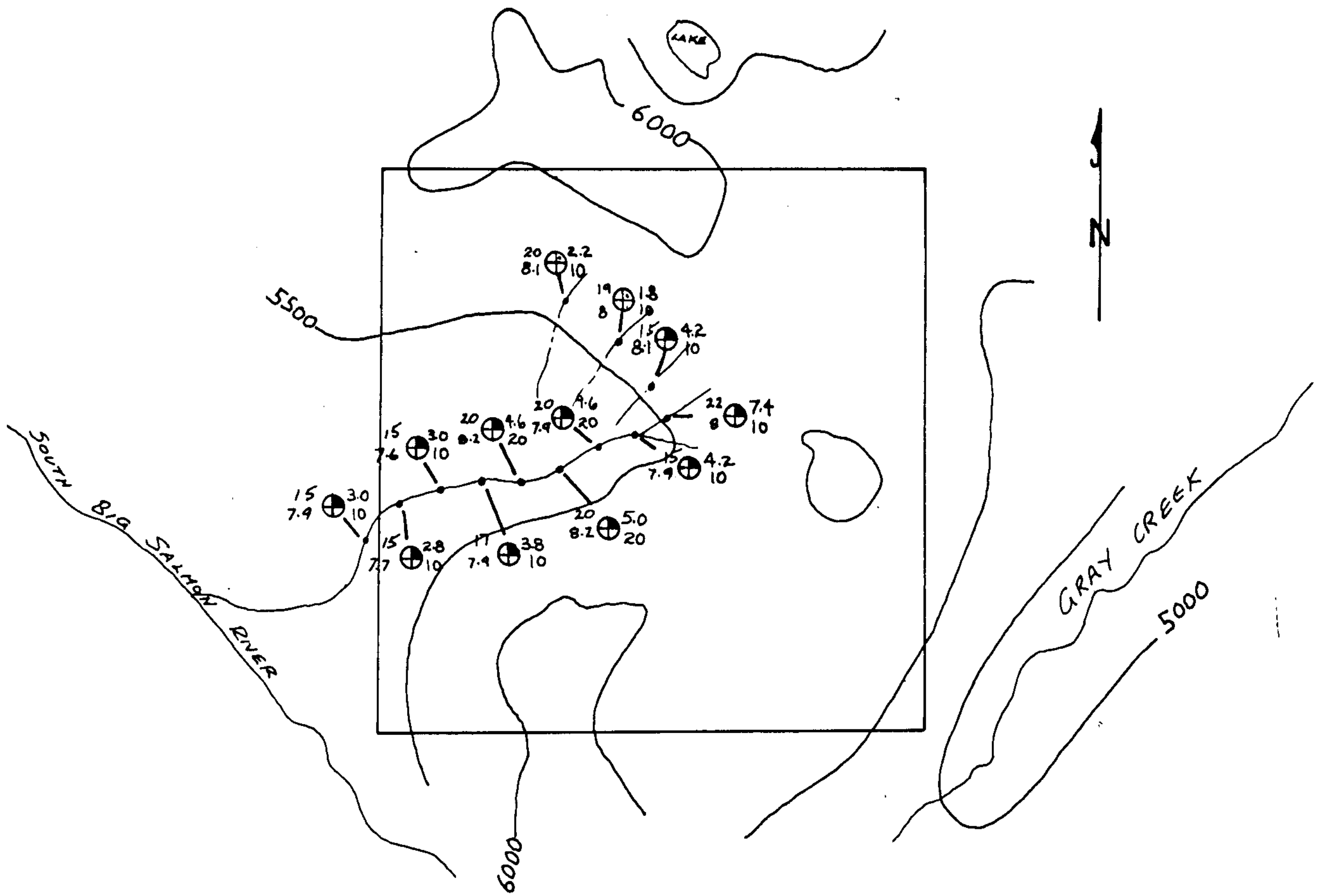
PLAN 6

CANADIAN OCCIDENTAL PETROLEUM LIMITED
MINERALS DIVISION

PROJECT WATSU
SAL 1-25 CLAIMS
YUKON TERRITORY

STREAM SEDIMENT GEOCHEMISTRY
Ag - U - Th - W

Scale : 1" = 2,640' (1/2 mile) September 1979



S.C. ⊕ ppb U ; All As < 2ppb
pH ⊕ ppb F

		U	F	As	S.C.		
Poss. Anomalous	◦	.85	100	–	46		
Prob. Anomalous	◣	2.5	210	2	100		

PLAN 7

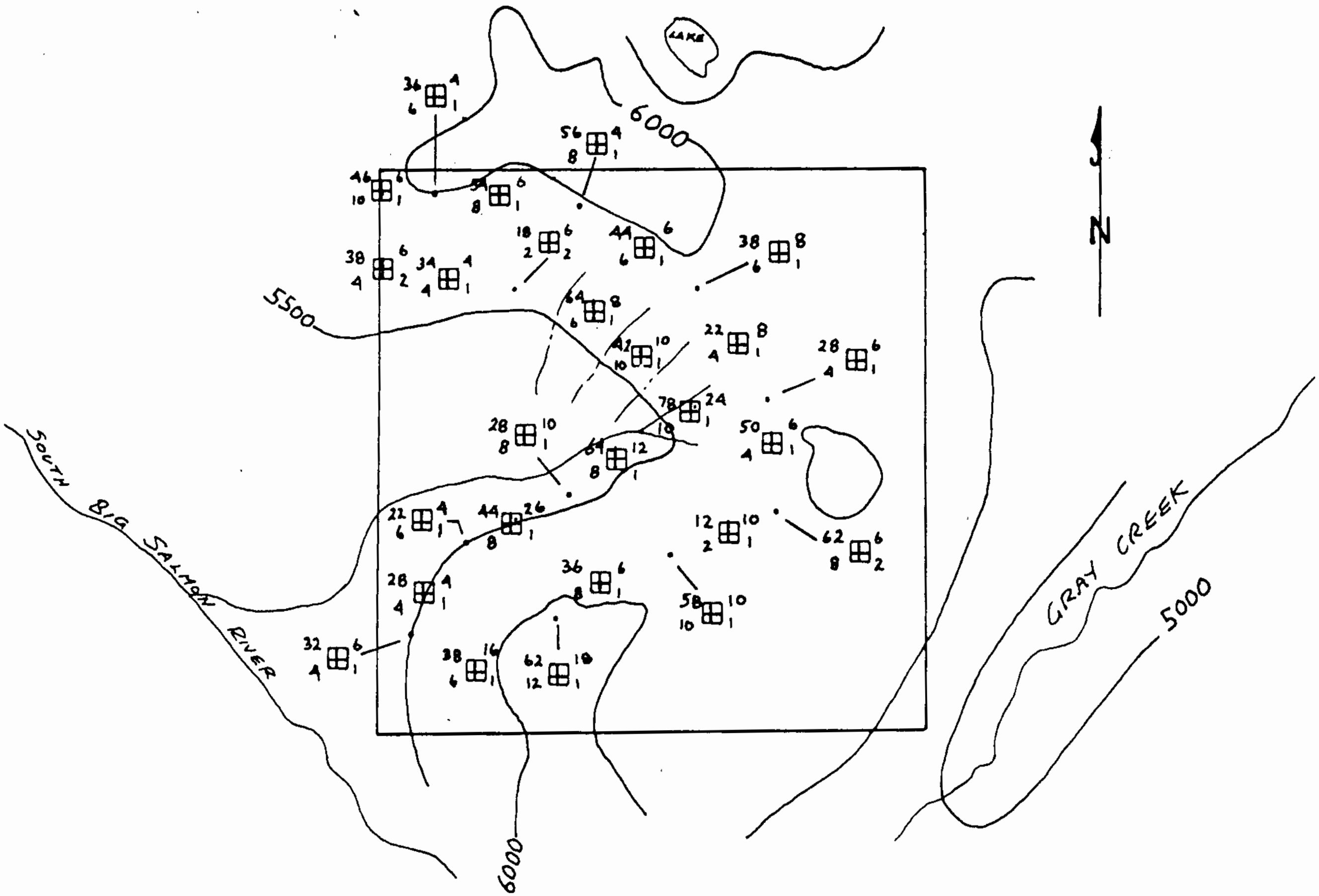
CANADIAN OCCIDENTAL PETROLEUM LIMITED
MINERALS DIVISION

PROJECT WATSU
SAL 1-25 CLAIMS
YUKON TERRITORY

STREAM WATER GEOCHEMISTRY

Scale : 1" = 2,640' (1/2 mile)

September 1979



ppm Zn ppm Cu
ppm Pb ⊞ ppm Mo

	Cu	Mo	Pb	Zn		
Poss. Anomalous	22	2.5	32	115		
Prob Anomalous	120	5	150	270		

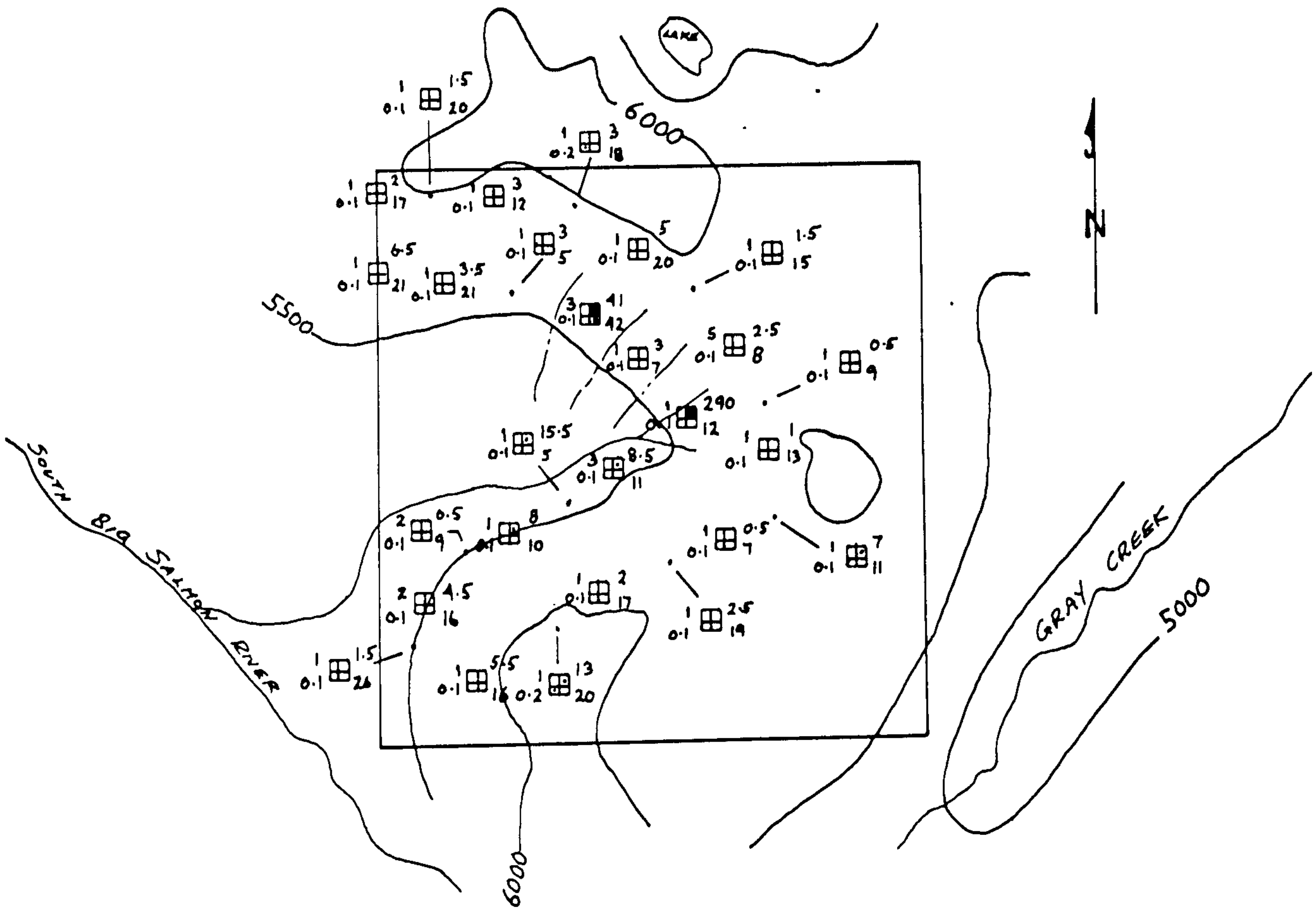
PLAN 8

CANADIAN OCCIDENTAL PETROLEUM LIMITED
MINERALS DIVISION

PROJECT WATSU
SAL 1-25 CLAIMS
YUKON TERRITORY

SOIL GEOCHEMISTRY
Cu - Mo - Pb - Zn

Scale 1" = 2,640' (1/2 mile) September 1979



ppm W ⊞ ppm U
ppm Ag ⊞ ppm Th

		U	Th	Ag	W		
Poss. Anomalous	•	7	36	·1	7·5		
Prob. Anomalous	◢	30	75	·8	40		

PLAN 9

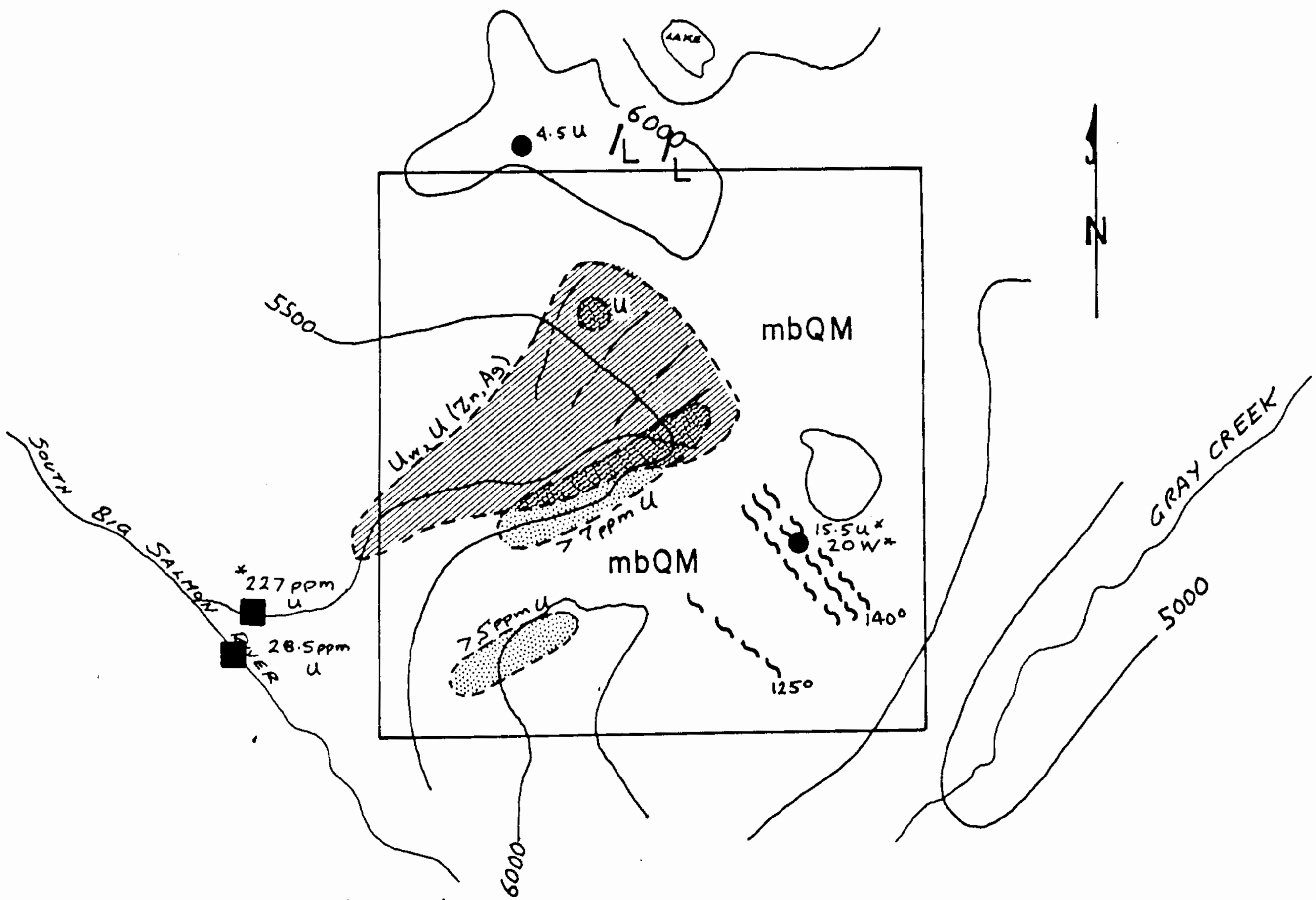
CANADIAN OCCIDENTAL PETROLEUM LIMITED
MINERALS DIVISION

PROJECT WATSU
SAL 1-25 CLAIMS
YUKON TERRITORY

SOIL GEOCHEMISTRY
U - Th - Ag - W

Scale : 1" = 2,640' (1/2 mile)

September 1979



Legend

Geology

- L : Lamprophyre dyke
- mbQM : Muscovite-biotite quartz monzonite
- ~~ : Fault

Geochemistry

- Stream sediment-water anomaly : U > 38ppm ; Zn > 115ppm ; Ag > 0.4ppm ; U_W > .85 ppb
- Soil anomaly : U > 7ppm
- ● Rock geochemistry
- ■ 1978 G.S.C.-U.R.P. stream sediment site

} All values in ppm

PLAN 10

CANADIAN OCCIDENTAL PETROLEUM LIMITED
MINERALS DIVISION

PROJECT WATSU
SAL 1-25 CLAIMS
YUKON TERRITORY

COMPILATION OF GEOLOGY & GEOCHEMISTRY

Scale 1" = 2,640' (1/2 mile)

September 1979

Author's Qualifications

Eric J. Sacks

Education - Graduated Queen's University,
Kingston, Ontario
M.Sc. in Geology, 1978
- Graduated University of Toronto,
Toronto, Ontario
B.Sc. in Geology, 1977

Work Experience - Employed as field exploration geolgist with Canadian Occidental Petroleum Ltd., Minerals Division, Toronto, Ontario since 1978. Carried out and supervised mineral exploration programs in B.C. and Yukon.

Statement of Expenditures

Claims SAL 1-25

Record Numbers YA 24671 - YA 24695

			Pro-rated[1] Costs
Salaries and Benefits			$1,650.21
Travel and Accommodation			1,005.87
Drafting and Reproduction			353.39
Consultant			495.86
Camp costs and Supplies			1,132.74
Rental of Equipment			188.78
Other Work			482.69
	Sub-total		$5,309.54
Helicopter 3.5 hr. at $340/hr.	$1,190.00	2	
Geochemical 411 analyses	497.12	3	$1,687.12
	Total		$6,996.66

Notes

[1] Pro-rated on basis of 5.6 man-days worked on claims conducting geological/geochemical/geophysical surveys out of a total of 115.6 man-days spent on these surveys during Project Watsu (see attached breakdown on following sheet).

[2] Helicopter flying completed by Associated Helicopters Ltd.

[3] Geochemical analyses completed by Chemex Labs, Vancouver,.B.C. (see attached Cost Breakdown).

PROJECT

BC CLAIM GROUPS	TOTAL NO. OF MAN DAYS	PRO-RATED COSTS SALARIES & BENEFITS	TRAVEL & ACCOMMODATION	DRAFTING & REPRODUCTION	CONSULTANTS	CAMP COSTS & SUPPLIES	EQUIPMENT RENTAL	OTHER WORK	SUB-TOTAL "A"	REAL COSTS HELICOPTER at $310/hr	hrs.	GEOCHEMISTRY cost	# ana	SUB-TOTAL "B"	TOTAL "A" + "B"
ALLEN	4.3	1267.12	772.36	271.35	380.75	869.78	144.96	370.63	4076.95	620.00	2.0	617.80	385	1237.80	5314.75
ASP	5.0	1473.40	898.10	315.53	442.73	1011.38	168.56	430.97	4740.67	682.00	2.2	627.28	396	1309.28	6049.95
COT	3.0	884.04	538.86	189.32	265.64	606.83	101.13	258.58	2844.40	620.00	2.0	378.24	201	998.24	3842.64
KAZ	5.0	1473.40	898.10	315.53	442.73	1011.38	168.56	430.97	4740.67	527.00	1.7	854.64	454	1381.64	6122.31
MAR	1.0	294.68	179.62	63.11	88.55	202.28	33.71	86.20	948.15	310.00	1.0	62.40	18	372.40	1320.55
NEED	5.0	1473.40	898.10	315.53	442.73	1011.38	168.56	430.97	4740.67	837.00	2.7	966.36	560	1803.36	6544.03
PLATE	5.4	1591.27	969.94	340.77	478.15	1092.29	182.04	465.45	5119.91	961.00	3.1	793.24	464	1754.24	6874.15
RAN	5.4	1591.27	969.94	340.77	478.15	1092.29	182.04	465.45	5119.91	1209.00	3.9	775.28	524	1984.28	7104.19
SHAR 1&2	5.4	1591.27	969.94	340.77	478.15	1092.29	182.04	465.45	5119.91	1023.00	3.3	639.36	402	1662.36	6782.27
SHAR 3&4, 9	5.4	1591.27	969.94	340.77	478.15	1092.29	182.04	465.45	5119.91	1488.00	4.8	480.04	619	2268.04	7387.95
SHAR 5&6	5.4	1591.27	969.94	340.77	478.15	1092.29	182.04	465.45	5119.91	899.00	2.9	750.36	469	1649.36	6769.27
SHAR 7&8	5.4	1591.27	969.94	340.77	478.15	1092.29	182.04	465.45	5119.91	837.00	2.7	749.28	460	1586.28	6706.19
SUB-TOTAL (1)	55.7	16413.66	10004.78	3514.99	4932.03	11266.77	1877.72	4801.02	52810.97	10013.00	32.3	7994.28	4952	18007.28	70818.25
YUKON CLAIM GROUPS										at $340/hr					
BIG OX	5.6	1650.21	1005.87	353.39	495.86	1132.74	188.78	482.69	5309.54	1020.00	3.0	879.76	541	1899.76	7209.30
BORDER	1.1	324.15	197.58	69.42	97.40	222.50	37.08	94.81	1042.94	204.00	0.6	165.16	101	369.16	1412.10
CLO	3.9	1149.25	400.52	246.11	345.33	788.87	131.47	336.16	3697.71	1224.00	3.6	316.96	185	1540.96	5238.67
CO	2.2	648.30	395.16	138.83	194.80	445.01	74.16	189.63	2085.89	918.00	2.7	535.24	372	1453.24	3539.13
GOAT	5.5	1620.74	987.91	347.08	487.01	1112.51	185.41	474.07	5214.73	782.00	2.3	1266.48	807	2048.48	7263.21
ICE	4.2	1237.66	754.40	265.04	371.90	848.56	141.59	362.32	3982.47	782.00	2.3	798.64	351	1280.64	5263.11
LICK	5.2	1532.34	934.02	328.15	460.44	1051.83	175.30	448.21	4930.29	748.00	2.2	920.36	546	1668.36	6598.65
MOX	5.9	1738.61	1059.75	372.32	522.43	1193.42	198.90	508.54	5593.97	1292.00	3.8	1205.04	705	2497.04	8091.01
OXY	4.6	1355.53	826.25	290.29	407.31	930.47	155.07	396.49	4361.41	884.00	2.6	732.44	449	1616.44	5977.85
PISA	5.6	1650.21	1005.87	353.39	495.86	1132.74	188.78	482.68	5309.54	714.00	2.1	757.96	512	1471.96	6781.50
SAL	5.6	1650.21	1005.87	353.39	495.86	1132.74	188,78	482.78	5309.54	1190.00	3.5	497.12	411	1687.12	6996.66
TIER	4.9	1443.93	880.15	309.21	433.91	991.10	165.18	422.71	4645.46	1156.00	3.4	750.76	438	1906.76	6552.60
WOX	5.6	1650.21	1005.87	353.39	495.86	1132.74	188.78	482.69	5309.54	952.00	2.8	841.08	579	1793.08	7102.62
SUB-TOTAL (2)	59.9	17651.35	10759.22	3780.01	5303.97	12116.23	2019.28	5162.98	56793.41	11866.00	34.9	9367.00	5997	21233.00	78026.41
TOTALS (1+2)	115.6	34065.00	20764.00	7295.00	10236.00	23383.00	3897.00	9964.00	109604.00	21879.00	67.2	17361.28	10949	39240.28	148844.66

THE SAL CLAIM GROUP

GEOCHEMICAL COST BREAKDOWN

INVOICE #[1]	# OF SAMPLES	DESCRIPTION	COST[2]
31943	7	Cu, Mo, Pb, Zn, As, U, Sn, W	$100.45
32440	19	Th	95.00
32701	4	$\%U_3O_8$ assay	40.00
31746	12	U, F, As	111.00
31920	12	Cu, Mo, Pb, Zn, Ag, U, W	84.60
31900	27	Cu, Mo, Pb, Zn, Ag, U, Th, W	190.35
		SUB-TOTAL	$621.40 less 20%
		TOTAL	$497.12

1 - all invoices from Chemex Labs unless otherwise noted
2 - cost includes preparation of samples